Ardagh's list of plates for any of the editions of Lambert. I have not had access to the later editions to determine whether these appeared there under other names. Possibly *Abies Smithiana* Lamb., *Pinus Llaveana* Lamb., and *Taxus Harringtonia* Lamb. are properly published in this Stanford copy under article 44 of the International Rules. It is indeed fortunate, however, that no name changing of an established species appears to be involved.

The above plates were of the usual engraved type common to the work. An additional engraved plate of an *Abies* cone-bearing twig without name or number has the name "Pindrow" penciled below it, probably much later. The first regular appearance of a plate of this species in Lambert was in 1837.

Finally, in the Stanford copy also are unlabelled colored drawings readily recognized as *Pinus tuberculata* Gord. not D. Don (two cones on two pages), *P. muricata* D. Don (two cones on one page), and *P. radiata* D. Don (two cones on two pages). These drawings apparently were originals made for the use of the engraver. These species were all legitimately published some years later in various works.

Grateful acknowledgement is made of suggestions received from Mr. Alfred Rehder of the Arnold Arboretum in the preparation of these notes.

Carnegie Institution of Washington,
Division of Plant Biology,
Stanford University, California.

Literature Cited

1. Little, E. L., Jr. Notes on Nomenclature in Pinaceae. Am. Jour. Bot. 31: 587–596. 1944.
2. Renkema, H. W., and J. Ardagh. Aylmer Bourke Lambert and his "Description of the Genus Pinus." Jour. Linn. Soc. Lond., Bot. 48: 439–466. 1930.

A NEW NOLINA FROM SOUTHERN CALIFORNIA

Howard Scott Gentry

While visiting at the San Diego Museum of Natural History during the summer of 1945, my attention was called by the curator, Mrs. E. B. Higgins, to a *Nolina* that she and Mr. Harbison, entomologist of the same institution, had recently discovered near the Dehesa School. This locality is about eight miles east of El Cajon, San Diego County, California, and some fifteen miles north of the Mexican border in the bold, granitic mountains so characteristic of that region. Fire had swept the chaparral one or two years previous to our visit. The *Nolina* grew on the margins of what had been a chaparral slope and showed a marked preference for granitic outcrops and the coarse detrital edges of steep-sided gulleys, indicating that it had not been a close component of

chaparral, but rather an associate in the more open margins in the poorer, immature, arid soils.

Most remarkable was the discovery that what had appeared to be acaulescent, individual plants of *Nolina* were in reality flowering shoots from a horizontal, trunk-like rhizome buried below the soil surface. Recent gulley erosion had partially exca-

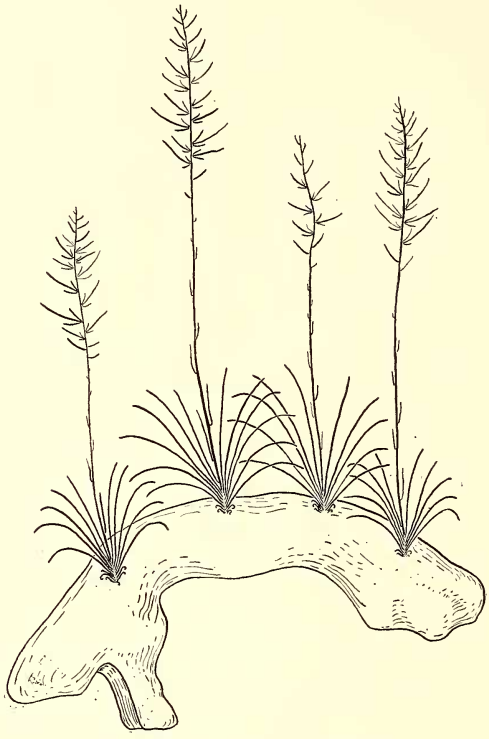

Fig. 1. Habit sketch of *Nolina interrata.*

vated several plants and had disclosed large, branching rhizomes 6 to 10 feet long and 8 to 12 inches or more in diameter, which bore small roots along the ventral side (text fig. 1). Some of the trunks showed partial burning with bark reduced nearly to charcoal. The aerial portions of the plants consisted wholly of growth made since the fire.

Specimens of *Nolina* were borrowed from the following institutions: University of California, Berkeley; California Academy of Sciences, San Francisco; University of Arizona, Tucson; University of Michigan, Ann Arbor. The author expresses appreciation to the curators of the herbaria at the above institutions.

Nolina interrata sp. nov. Lignosa rhizoma ferente rosulas subsessiles; cortice crasse reticulato, areolis truncate pyramidalibus, irregulariter pentagonis ca. 1 cm. latis et 5 mm. crassis; rosulis sessilibus typice 10–20-foliatis; foliis glaucis 70–90 cm. longis, 8–15 mm. latis, in apicem tenuem brunneolum efiliferum desinentibus, margine haud filiferis, denticulis biformibus alteris compositis 1–3-apiculatis inter se 0.5 mm. distantibus alternantibus cum alteris parvioribus simplicibusque; costis scabris, crassiuscule, denticuliferis; canaliculis intercostalibus profundis, apertis; panicula composita, laxa, 1.5–2 m. longa, internodiis 5–12 cm. longis, bracteiferis, bracteis foliaceis 20–40 cm. longis; pedunculis (terminalibus exceptis) ternis, centrali 12–16 cm. longo, lateralibus dimidio brevioribus, omnibus bracteolis scariosis dilaceratis vel truncatis vel varie imperfectis bases pedicellorum includentibus praeditis; pedicellis supra mediam articulatis, fasciculatis; floribus pistillatis staminodia ferentibus in perianthii segmenta; fructibus latioribus quam longioribus, 12–15 mm. crassis; seminibus viridiusculis, rugosis, 5 mm. longis, 4 mm. in diametro.

Plant with subterranean rhizome and aerial rosettes bearing flowering stalks, the bark coarsely reticulated into pyramidal pentagons 1 cm. or more broad and about 5 mm. thick; rosettes subsessile, (6)10–20(or more)-leaved, the bases of desiccated leaves persisting as brownish vestiges with decurved ends; leaves glaucous, 70–90(100) cm. long, 8–15 mm. wide near the bases, tapering to slender, dry, non-filiferous tips; margins fixed, armed with denticles of two sizes, the larger about 0.5 mm. apart and often compounded into two or three points; vascular costae scabrous with denticles discernible between the deep open intercostal sinuses; inflorescence an open compound panicle 1.5–2 m. long; scape internodes 5–12 cm. long with narrow leaf-like bracts 20–40 cm. long; peduncles, except the teminal, 3 from each node, the central one 12–16 cm. long, about twice the length of the two lateral ones, all with scarious, lacerate, long-acuminate bractlets 3–4 mm. long enclosing the pedicel bases, bractlets rupturing transversely in age to leave a truncate vestige; pedicels 1–3, fasciculate, jointed above the middle, the pistillate flowers with staminodes inserted on the perianth segments; fruits large, broader than long, 12–15 mm. wide; seeds yellowish, wrinkled, asymmetrical by the rather straight raphe, 5 mm. in long diameter, 4 mm. in transverse diameter, the hilum suprabasal with a conic caruncle which is more broadly and roundly duplicated at the axial apex.

Type. Slope west of Dehesa School, San Diego County, California, August 5, 1945, *Howard Scott Gentry 7330* (San Diego Museum of Natural History; isotypes, University of California, California Academy of Sciences, University of Arizona, University of Michigan).

The following additional collections from the type locality

have been studied: *Gentry 7330a, 7330b, 7330c, 7330d* (representing depauperate and robust extremes); *Gentry 7330e* (mature staminate inflorescence); *Higgins 25472,* June 14, 1939 (immature staminate inflorescence); *Gander 7695,* July, 1939 (fruiting). Mature seeds were collected by Mrs. Higgins on November 15, 1945. The species may also be found in Baja California inasmuch as similar habitats occur south of the border.

Nolina interrata resembles *N. Palmeri* in its foliage, but it differs from that species in its larger fruits, which do not dehisce to expose a persistent seed. Because of its well-developed rhizome (trunk), broad leaves, and large fruits, *N. interrata* belongs to the section Arborescentes of Trelease (The Desert Group Nolinae, Proc. Am. Phil. Soc. 50: 405–423, 1911). It appears most closely related to the *N. Beldingii* group, from which it is distinguished by its more glaucous, narrower leaves with more numerous marginal teeth of two sizes, with open denticulate intercostal sinuses (closed in *N. Beldingii*), and by the larger seeds. The glaucous leaf with coarse armature sets it apart from other known species of *Nolina.* The horizontal subterranean trunk or rhizome is especially noteworthy and suggests that this structure may be present in other members of the genus heretofore assumed to be acaulescent. This feature, which may readily be over-looked, would not have been discovered in this case had not erosion exposed portions of the rhizome.

A review of the literature and collections convinces me that the genus *Nolina* is not well understood. It possesses few striking morphological characters: the flowers are monotonously similar, and the fruits vary only as regards size and dehiscence. The seeds show differences in surface structure and color, but they are often absent in collections. The leaves are superficially alike, but they do differ somewhat in form of keeling, thickness, width, and marginal armor. The latter character and the microscopic rugosities of the ribbing, when combined with gross features, offer an approach to the problems of speciation. The nature of the minute denticles of the vascular ribs can be determined only by 20–30 × magnification. On the whole, the leaf appears to be the most satisfactory organ for determining the status of closely related entities.

Under *Nolina microcarpa* and *N. Bigelovii* are grouped complex series of variants. Under *N. microcarpa* on the basis of fairly uniform inflorescences have been lumped numerous leaf variants. Similarly, numerous leaf variants have been gathered under *N. Bigelovii* because of exfoliating leaf margins. Close inspection of leaf structure, however, shows that actually these broad specific groupings cover several variants that appear to have genetic consistency. Such species are based upon a few conspicuous characters maintained rather for taxonomic convenience than for taxonomic adequacy. The minutiae of leaf and bract may be more

PLATE 19. NOLINA INTERRATA. Fig. *a*, base of rosette showing old persistent leaf bases and reticulate bark, $\times \frac{2}{3}$; fig. *b*, peduncles with bract and bractlets, $\times 1\frac{1}{2}$; fig. *c*, bractlets and pedicels, $\times 6$; fig. *d*, fruit, $\times 1$; fig. *e*, marginal section of leaf, $\times 15$.

expressive of genetic relationships, since greater differences between populations can be ascertained by their study. A fine series of California *Nolina* was gathered by Carl Wolf and put into cultivation at the Rancho Santa Ana Botanical Garden. One has only to examine casually this young live collection, with its several distinctive variants, to appreciate that only two names for California *Nolina* are insufficient. Not until close work on distribution with thorough collecting of populations is done can the Nolinae be understood.

Botany Department,
University of Michigan, Ann Arbor.

KATHERINE DAVIES JONES

1860–1943

Katherine Davies Jones, the fourth of seven children, was born of Welch parents in 1860 in a log cabin in Berlin, Wisconsin. In Wales, her father had been a singing master and her mother, daughter of the schoolmaster, was a singer of reputation. In this country, her father was first a colporter, selling Bibles and singing throughout the country, but soon he became a Congregationalist minister and was sent out to build and establish churches in rural communities, always moving westward. The children raised the family's food, were clothed by the occasional missionary barrel, an exciting event, and attended rural schools.

From the time she was sixteen until the family moved to Murphy's Camp, Calaveras County, California, in 1880, Katherine taught during the summers and attended school during the winters, going to Salem High School, then Normal School at Peru, Nebraska, and Latin School at Lincoln, Nebraska, followed by a year at the University of Nebraska. In Calaveras County, where her father's preaching station included six or seven churches, Katherine worked and saved until she was able to return to the University of Nebraska. After seven months, however, she was recalled to Murphy's Camp by the illness of her mother. Later that year the family moved to South Vallejo, California, where Katherine at first conducted a private school of her own and then taught for some six years in the public schools.

Through her aid, Guernsey, her younger brother, went to the University of California, where he graduated in 1891. Katherine sometimes visited her brother at Berkeley and attendance at some of Professor LeConte's lectures on zoology renewed her desire to return to college herself. She entered the University of California and graduated in 1896. For a year she taught biology and music at Hayward, but her health forced her to give up her teaching there and she returned to Berkeley. At first she assisted Pro-